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**Genomic instability in pluripotent stem cells: implications for clinical applications.**

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**Public Summary:**

Human pluripotent stem cells (hPSCs) are known to acquire genomic changes as they proliferate and differentiate. Despite concerns that these changes will compromise the safety of hPSC-derived cell therapy, there is currently scant evidence linking the known hPSC genomic abnormalities with malignancy. For the successful use of hPSCs for clinical applications, we will need to learn to distinguish between innocuous genomic aberrations and those that may cause tumors. To minimize any effects of acquired mutations on cell therapy, we strongly recommend that cells destined for transplant be monitored throughout their preparation using a high-resolution method such as SNP genotyping.

**Scientific Abstract:**

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